What is claimed is:

1. A method for manufacturing an image sensor having a photo diode, comprising:

forming a transfer gate and a reset gate on predetermined portions of a semiconductor substrate with a specific distance therebetween;

forming a photoresist pattern exposing a region at one side of the transfer gate;

forming a p-type photo diode region by implanting p-type impurities into the exposed semiconductor substrate with a first ion implantation energy;

forming a first n-type photo diode region by implanting first n-type impurities into a portion below the p-type photo diode region, with a second ion implantation energy;

forming a second n-type photo diode region by implanting second n-type impurities into a portion surrounding the first n-type photo diode region, with a third ion implantation energy; and

removing the photoresist pattern.

2. The method for manufacturing the image sensor having the photo diode of claim 1, wherein the p-type impurities are boron ions.

3. The method for manufacturing the image sensor having the photo diode of claim 1, wherein the first n-type impurities are arsenic ions.

4. The method for manufacturing the image sensor having the photo diode of claim 3, wherein the arsenic ions are implanted with a concentration of $1x10^{12}/cm^2$ to $9x10^{12}/cm^2$.

5. The method for manufacturing the image sensor having the photo diode of claim 1, wherein the second ion implantation energy is greater than the first ion implantation energy.

6. The method for manufacturing the image sensor having the photo diode of claim 1, wherein the second n-type impurities are phosphorus ions.

7. The method for manufacturing the image sensor having the photo diode of claim 6, wherein the phosphorus ions are implanted with a concentration of $5x10^{11}/cm^2$ to $9x10^{11}/cm^2$.

8. The method for manufacturing the image sensor having the photo diode of claim 1, wherein the third ion implantation energy is greater than each of the first and second ion implantation energies.

9. The method for manufacturing the image sensor having the photo diode of claim 1, wherein the order of the steps of:

forming the p-type photo diode region;

forming the first n-type photo diode region; and

forming the second n-type photo diode region is altered.

10. The method for manufacturing the image sensor having the photo diode of claim 1, further comprising:

forming spacers on both walls of the transfer gate and the reset gate; and

forming a junction region by implanting the n-type impurities into a space between the transfer gate and reset gate, and to one side of the reset gate,

after removing the photoresist pattern.